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**Published Papers Title : Combined Surgical
& Prosthetic Management of an
Edentulous Patient with Shallow Vestibule
- a case report**

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A Case Report

Combined Surgical & Prosthetic Management Of An Edentulous Patient With Shallow Vestibule - A Case Report

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Declaration

The Declaration of the authors for publication of Research Paper in Asian Journal of Modern and Ayurvedic Medical Science (ISSN 2279-0772) Dr Sudhir Meena 1 Dr Pavan Dubey2 Dr Rinku Mathur 3 Dr Parul Singhal4 the authors of the research paper entitled Combined Surgical & Prosthetic Management of an Edentulous Patient with Shallow Vestibule - a case report declare that , We take the responsibility of the content and material of our paper as We ourself have written it and also have read the manuscript of our paper carefully. Also, We hereby give our consent to publish our paper in ajmams , This research paper is our original work and no part of it or it's similar version is published or has been sent for publication anywhere else.We authorise the Editorial Board of the Journal to modify and edit the manuscript. We also give our consent to the publisher of ajmams to own the copyright of our research paper.

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Abstract

The presence of so called 'High mandibular attachments' serves to reduce the available denture bearing area and to undermine denture stability, the anterior part of the mandible is the site most frequently involved, the labial sulcus is virtually shallow, hence it is virtually impossible for a lower denture to be retained. Hence myoplasty accompanied by sulcus deepening has been proposed in an attempt to improve denture retention and stability. This article focuses on 'vestibuloplasty' procedure that eliminates the components involved in the displacement of conventional dentures and provides a broad base of attached mucosa for prosthetic support.

Key-words : Oral surgery, vestibuloplasty, surgical stent, pre-prosthetics

Introduction

In Complete Denture Prosthodontics there are a significant number of patients, who can never be made to

use Dentures effectively. The Causes can be bone atrophy, soft tissue atrophy, localized soft & hard tissue problems or combination of them, which have progressed beyond the point of prosthetic accommodation^{1,2}.



It is in these patients, that Preprosthetic surgery plays a significant contribution. Most preprosthetic procedures are centered around soft tissue corrections that allows prosthetic devices to fit more securely and function more comfortably.

As alveolar ridge resorption takes place, the attachment of mucosa and muscle near the denture-bearing area exerts a greater influence on the retention and stability of the dentures³. In addition, the amount and quality of fixed tissue over the denture-bearing area may be decreased, soft tissue surgery performed to improve denture stability may be carried out alone or may be done after bone augmentation⁴. In either case the primary goals of soft tissue preprosthetic surgery are to provide an enlarged area of fixed tissue in the primary denture bearing area and to improve extensions in the area of denture flanges by removing the dislodging effect of muscle attachment in the denture bearing or vestibular area.

Clinical report

A 62 yr. old male patient came to our Department of Prosthodontics for Complete Dentures. On oral examination it was found that, patient was having shallow mandibular labial vestibule, OPG revealed sufficient remaining bone (Fig.1a,b). A comprehensive treatment was planned after discussing the case with Department of Oral & Maxillofacial Surgery. As patient was in elderly age group a thorough medical history was recorded, also patients psychological mind set was evaluated.

The patient was otherwise healthy, so we decided for Vestibuloplasty to treat the same, for which patient gave his

consent which was subsequently Followed by Prosthetic treatment.

After thoroughly reviewing the Radiographic & clinical outcome, considering the patient's need all the treatment options were explained to the patient in order of preference. Treatment options to improve the patient's denture foundation are usually either nonsurgical or surgical in nature, but can be a combination of both methods.

- ◎ Non Surgical:-

- Oral physiotherapy

- ◎ Surgical:-

- Vestibuloplasty

- Osteointegrated implants supported denture

These so called high mandibular attachments serves to reduce the available denture bearing area and to undermine denture stability. So it is virtually impossible for a lower denture to be retained. Hence an "Ridge extension procedure" to gain the sufficient height for retention and stability was carried out.

Procedure

Deepening of the vestibule without any addition of the bone is termed as "vestibuloplasty or sulcoplasty". To utilize this procedure sufficient amount of height of the alveolar bone should be available.

Surgery commenced under local anesthesia (1:80,000 adernalaine) and antibiotic, analgesic coverage. Complete sterilization protocols were followed in keeping the armamentarium & operating field infection free. The oral surgeon carried out the sulcus deepening by employing "Kazanjian vestibuloplasty technique".⁵ The mentalis muscle is displaced to a lower level by severing the muscle



attachments followed by suturing of the replaced muscle(Fig. 2).

A custom made stent(DPI-RR cold cure acrylic resin) which was fabricated on diagnostic cast prior to surgery by scraping the cast to allow for an increase in the vertical extension of the denture flanges was loaded with soft liner(Ufi Gel P) and seated over the tissue to support the vestibuloplasty site(Fig. 3). An stent protects the denuded surface and increases patient comfort. It also maintains muscle in desired position thereby improving the results, Though 30% shrinkage and relapse is expected which can be compensated for during surgical planning⁶.

DIET : Oral feeding is usually discontinued until the swelling is decreased and the swallowing can be accomplished comfortably, An oral liquid diet for first 24 hours followed by a full liquid diet with supplementation is often ordered (i.v fluid therapy or hyper alimentation with commercial diet supplements)

Complications :

- Infection, pain and swelling
- Opening of sutures
- Mental nerve involvement
- Drooping of chin/ witch chin
- Difficulty in swallowing

On follow up we had no complains from the patient and the clinical measurements showed a significantly improved vestibular depth, which was still stable after two months post surgery (Fig. 4). Prosthetic management was done by fabricating conventional complete dentures (Fig. 5).

Discussion

Dentures on shallow vestibules often cause discomfort, annoyance & embarrassment. The anterior part of the body of mandible is the site most frequently involved, the labial sulcus is virtually obliterated and the mentalis muscle attachment appear to "migrate" to the crest of the residual ridge, Hence there is encroachment of muscle and tissue attachments to the alveolar crest resulting in progressive instability of conventional soft tissue borne prosthetic devices.

In this particular patient High Mandibular border attachments with adequate bone height were convincing enough to consider(Ridge extension) Kazanjian vestibuloplasty technique to gain additional denture bearing area. These procedures provide satisfactory results provided that adequate mandibular height exists preoperatively. A minimum of 15mm is acceptable for the procedure⁷. Disadvantages include unpredictable results, scarring and relapse. Kazanjian vestibuloplasty technique was preferred in this case as it causes comparatively less shrinkage & relapse⁸. Vestibular depth was significantly improved, which was still stable on subsequent follow up. Conventional complete dentures were fabricated for this reformed ridge.

Conclusion

We are more aware of the problems associated with a complete mandibular denture than any other dental Prosthesis, This owes to the attachment of mucosa & muscle near the denture bearing area. Preprosthetic Surgery is carried out to reform/redesign Soft tissues by eliminating biological hinderences & create an oral environment to receive comfortable & stable Prosthesis. The patients overall health status, compliance, patience, and ability to maintain the final prosthesis must be



considered when planning vestibuloplasty as well as future prosthetic rehabilitation. Moreover a multidisciplinary approach involving the patients input is imperative for long-term success and patients satisfaction.

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Fig.1a

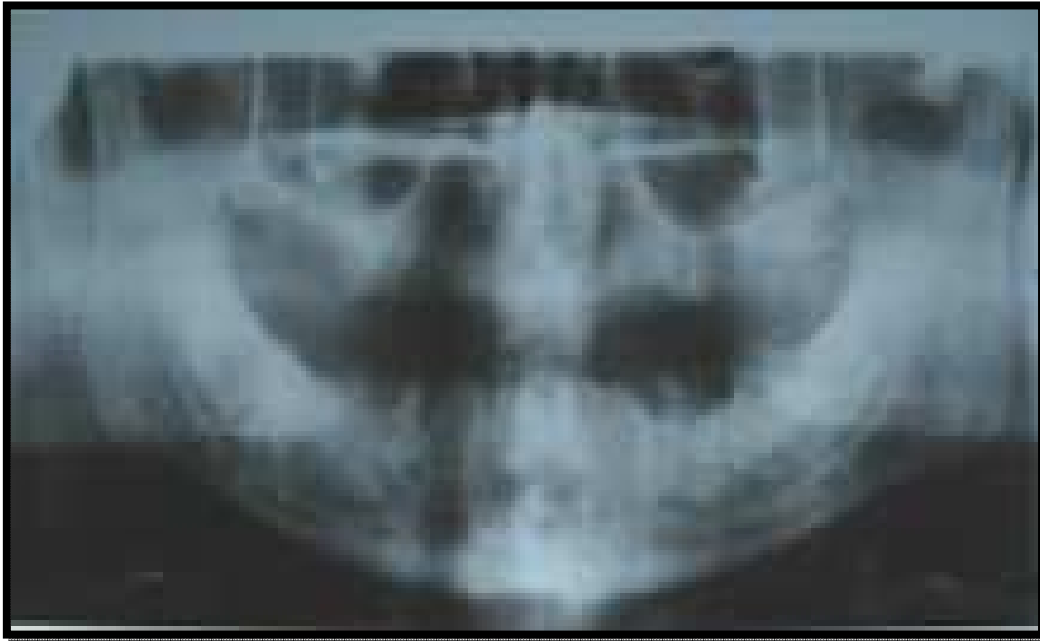
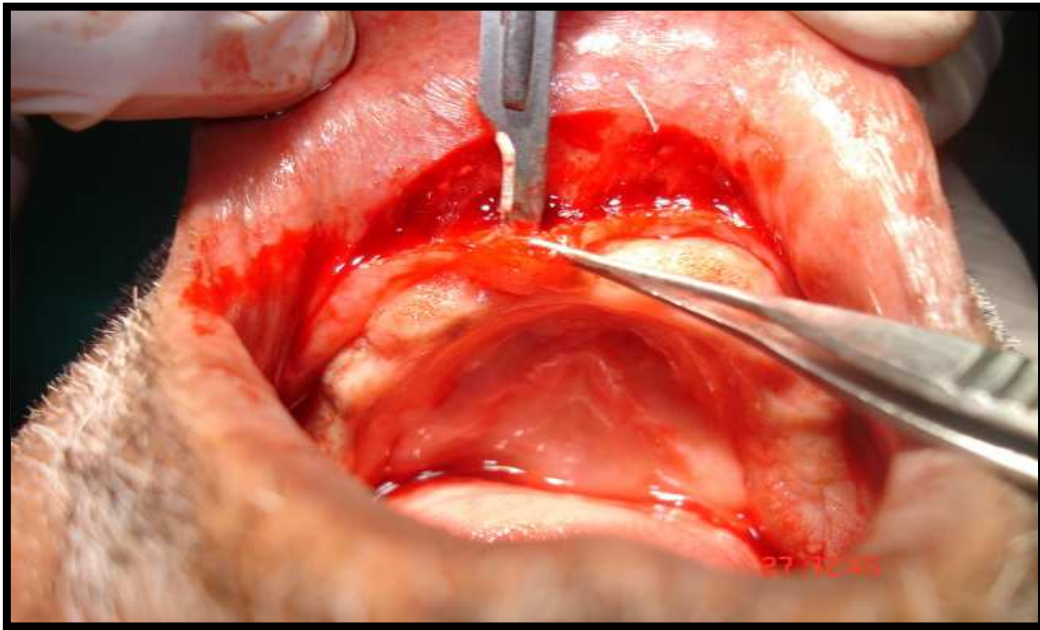
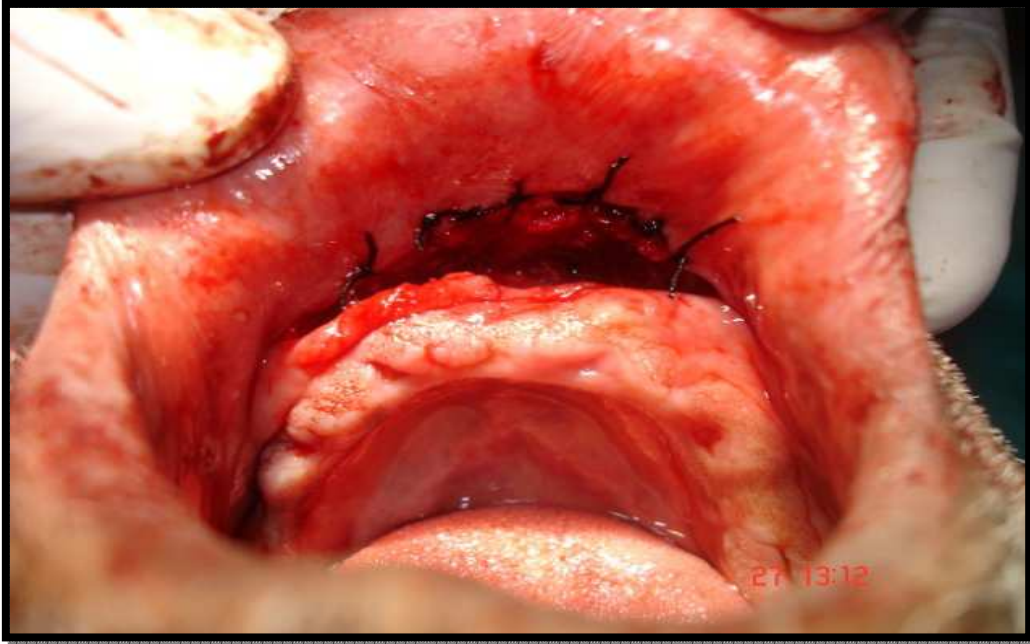


Fig. 1b



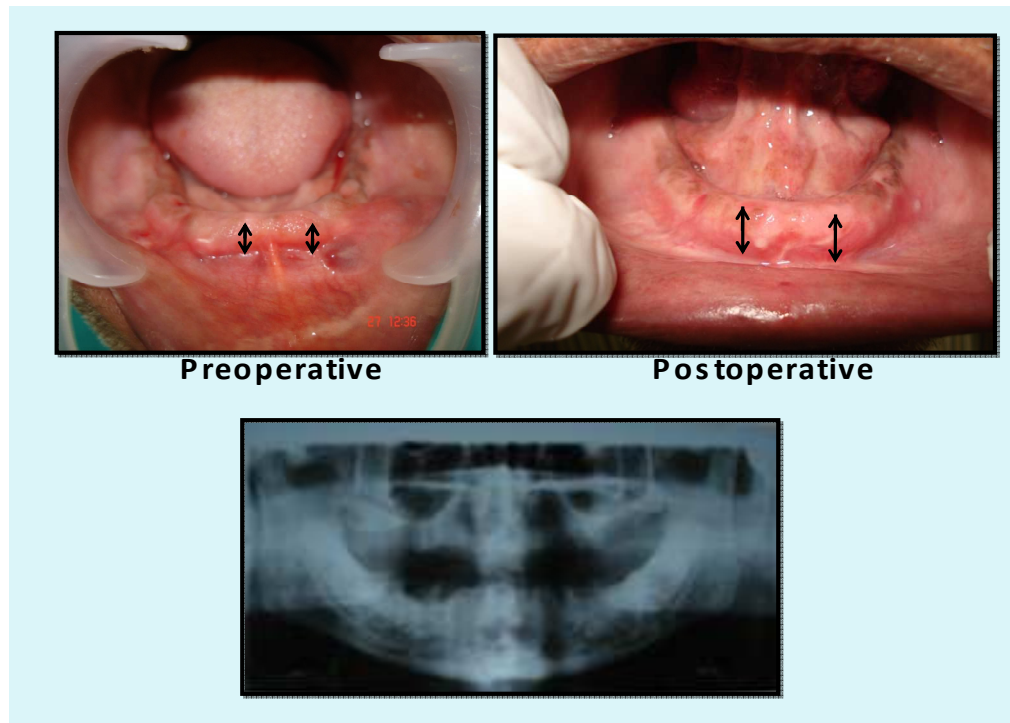


(Fig. 2) Kazanjian vestibuloplasty technique



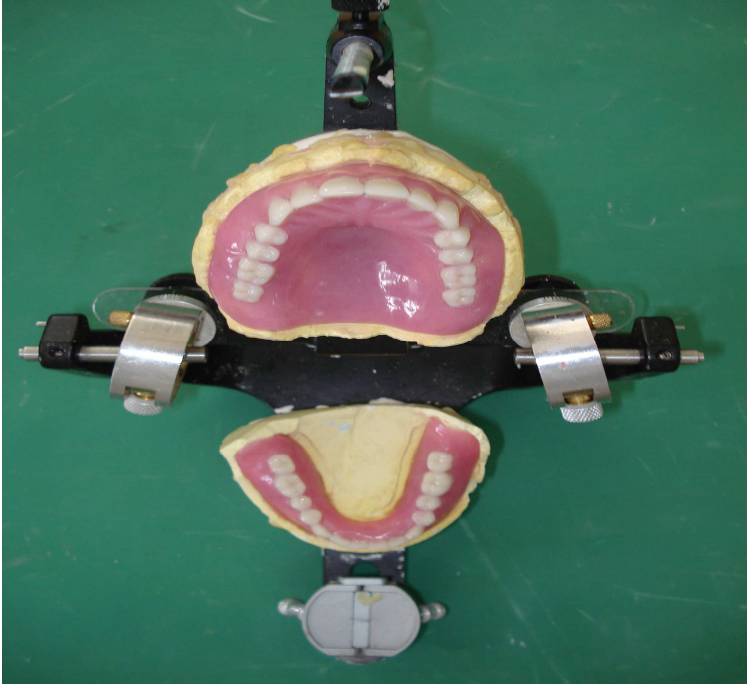


**(Fig. 3) Custom made stent(DPI-RR cold cure) Soft liner(Ufi Gel P)
Loaded & seated over the tissue**



(Fig. 4)





(Fig. 5)

